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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/594,652	06/15/2000	Shekhar Iyer	020431.0985	9277

53184 7590 12/13/2005  
i2 TECHNOLOGIES US, INC.  
ONE i2 PLACE, 11701 LUNA ROAD  
DALLAS, TX 75234

EXAMINER

GRAYSAY, TAMARA L

ART UNIT PAPER NUMBER

3623

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/594,652	IYER	
	<b>Examiner</b>	<b>Art Unit</b>	
	Tamara L. Graysay	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04 November 2005 has been entered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-5 and 7-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iyer (article, Automated retrieval and ranking of similar parts in agile manufacturing).

- a. Regarding claim 1, Iyer discloses a computer implemented system comprising
  - i. a first user interface (860:left:second paragraph, through an easy-to-use user interface) to receive a user (860:left:second paragraph, designer) request (860:left:second paragraph, input) specifying a desired attribute value for each product attribute (860:left:second paragraph, characteristics and similarity level);

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- ii. a search procedure (859:abstract; 860:left:second paragraph; 862:right:§3.1(1))
  - (1) for each attribute the desired attribute value is compared with the potential product to determine attribute similarity value (862:right:§3.1,second paragraph; 862:right:§3.1(1), identifies a set of potentially useful parts; and 864:§4);
  - (2) determine product similarity value (862:right:§2.3; 862:right:§3.1(1); 864:§4);
  - (3) alternative products selected according to product similarity (862:right:3.1(1));
- iii. a sort procedure (859:abstract; 863:left:§3.1(2); and 867:§5) to rank the products;
- iv. a second user interface (863:fig1) to present the set (sorted list of parts).

Iyer further discloses developing a mathematical expression to determine the range of digit values satisfying a similarity level. Iyer however, lacks the particularity of the mathematical expression, wherein each attribute similarity value is calculated according to either a first expression or a second expression depending on whether the attribute value for the potential alternative product is less than or greater than the desired attribute value for the requested product.

A mathematician or statistician having ordinary skill would know how to graphically and mathematically represent the relationship of one value to a range of other values. A mathematician or statistician of ordinary skill would have, as a matter of design choice, used

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the range of other values as the outliers (maximum and minimum) on one axis of a graph and compared the one value to the range of other values along the axis in an acceptable proportion, such as 1 for an exact match to the middle of the range of other values. Further, the number of expressions is within the level of ordinary skill insofar as the shape of the graph is concerned, whether an upwardly angled line, downwardly angled line, upwardly concave line, or downwardly concave line, etc..

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Iyer to include two expressions to represent a range of similarity values wherein the center of the range is an exact match. The use of an algebraic equation and a graph that is representative thereof, would have been an obvious matter of design choice to one of ordinary skill in the field of mathematics or statistics.

b. Regarding claim 2, the examiner takes Official notice that the use of one or more user interfaces is common in the computer implemented system art. A single interface would permit information to be visible at a single location rather than separate locations. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the user interface of Iyer to include a single user interface, in order to present the sorted list to the user at the same location that the user requests the information.

c. Regarding claims 3, 19, and 34, Iyer includes a database containing the information identifying available products (860:right:§2.1; 874:right:§7), availability (875:left:first

paragraph, production history), and their attributes (861:left:§2.1.1). Further regarding claim 4, the operability of the user interface does not structurally define over Iyer because Iyer tracks production history as noted above, and inherently.

d. Regarding claims 4, 20, and 35, the examiner takes Official notice that inventory tracking is well known in the product supply industry and that updating a database to reflect purchase or sale of a product is common in order to ensure that products are not offered that are not available. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Iyer system interface, to include inventory tracking, in order to ensure that products that are unavailable are not offered for sale.

e. Regarding claims 5 and 33, Iyer discloses the method steps performed by the system as well as the use of a computer readable medium encoded with software for performing the computer implemented process. Further regarding claim 5, the quantity of processing units does not affect the method as claimed, and as such has not been given patentable weight.

f. Regarding claims 7, 21, and 36, Iyer discloses desired attribute value as minimum, maximum, or exact (863:§3.1(1), most relevant parts; 866:right, §4.2.3, range feature characteristics).

g. Regarding claims 8, 22, and 37, Iyer discloses the user request further specifies a maximum or minimum attribute value (862:right:§3.1(1), retrieves parts that satisfy

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similarity requirements, redefine the search, etc.; 866:right, §4.2.3, range feature characteristics)

h. Regarding claims 9, 23, and 38, Iyer discloses the user request specifying the desired level of similarity (860:left:second and third paragraphs) for each product characteristic (860:left:second and third paragraphs, characteristics) encompassing one or more product attributes (e.g., 862:left:§2.5, a part class and specified attributes).

i. Regarding claims 10, 11, 24, 25, 39, and 40, Iyer discloses searching by the users desired level of similarity which inherently compares all products and retrieves information for only those products that have similar attributes, i.e., a constraint.

j. Regarding claims 12, 26, and 41, although the particular claimed algorithm is not mentioned, Iyer discloses the use of similarity measures and coefficients to quantify similarity between items (e.g., machines) at 861:right:§2.3. Iyer does mention the attribute similarity value (864:right:second paragraph, similarity index value).

k. Regarding claims 13, 14, 27, 28, 42, and 43, Iyer mentions binary valued characteristics at 865:left:§4.1. A binary valued characteristic is a weight insofar as the attribute of the product matches (value of 1) or does not match (value of 0). Iyer further teaches valuation based on weighted sum (865:§4.2, continuous valued characteristics).

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- l. Regarding claims 15, 29, and 44, Iyer discloses a global index value (867:§5, global similarity measure).
- m. Regarding claims 16, 30, and 45, Iyer teaches threshold similarity value during the search procedure (865:right:§4.2).
- n. Regarding claims 17, 31, and 46, Iyer does not particularly address a user limiting the number of candidate alternate products. However, the examiner takes Official notice that a user limiting the number of results in a search query is common and well known expedient in computer implemented query/response procedures used to focus the results to the most relevant. For example, the top fifteen hits, or more particularly top ten movies, top fifty colleges, top three safest cars, etc. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Iyer to include a user limited sort result, in order to focus the sort query results to the most relevant products.
- o. Regarding claim 18, 32, and 47, such a tie breaking technique is referred to in Iyer as primary feature and secondary feature characteristics (868:§5.1.2, 5.1.3) and combination scheme (871:§5.2, priority vector, combination matrix).



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***Response to Arguments***


2. Applicant's arguments with respect to claims 1-5 and 7-47 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamara L. Graysay whose telephone number is (571) 272-6728. The examiner can normally be reached on Mon - Fri from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz, can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Tamara L. Graysay  
Examiner  
Art Unit 3623

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